

Notice of Allowability	Application No.	Applicant(s)	
	09/955,472	TO ET AL.	
	Examiner	Art Unit	
	Khanh Dinh	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/7/2005.
2. ☒ The allowed claim(s) is/are 1-7,9,10 and 12-14.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

Khanh Dinh

Khanh Dinh
Primary Examiner
Art Unit: 2151

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Seth Ostrow (the Undersigned Attorney, Reg. No.37,410) on 1/20/2006.

The application has been amended as follows:

IN THE CLAIMS:

Please **cancel** claims 8 and 11.

Please **amend** claims as follows:

--1. (Currently Amended) A method for resolving anomalies within a network topology map, the method comprising:

identifying an anomaly including a conflicting link within a received topology map, the conflicting link comprising a source port on a network device and one or more conflicting destination ports on one or more other network devices;

resolving the conflicting link by inserting one or more virtual devices within the topology map, the one or more virtual devices being representative of one or more of the network devices not identified in the received topology map as linked to the source or destination ports wherein resolving the conflicting link comprises first determining

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whether the source or a destination in the conflicting link is linked to a first virtual device;[[and]]

replacing the conflicting link with a resolved link to the one or more virtual devices based upon the resolution of the conflicting link wherein replacing the conflicting link with a link to a virtual device only if neither the source nor a destination is linked to the first virtual device; and

wherein if a destination in the conflicting link is linked to a first virtual device, creating a link from the source to the first virtual device if the source in the conflicting link is not a virtual device.

2. (Original) The method of claim 1, wherein resolving the conflicting link comprises:

determining a number of conflicting destinations from the source of the conflicting link;

resolving the source of the conflicting link;

resolving the conflicting destination.

3. (Original) The method of claim 1, comprising identifying a link between two virtual devices; and merging the virtual devices.

4. (Original) The method of claim 1 , wherein identifying the conflicting link comprises locating two or more entries in a link table showing the source to be linked to two or more different destinations.

5. (Original) The method of claim 4, comprising grouping together entries in the link table having the source into a conflict group.

6. (Original) The method of claim 4, wherein replacing the conflicting link with a link to the virtual device comprises removing the conflicting link from the link table and inserting the link to the virtual device in a virtual link table.

7. (Original) The method of claim 6, comprising generating a virtual link table for storing one or more links to virtual devices.

8. (Canceled).

9. (Currently Amended) The method of claim [[8]] 1, wherein determining whether the source or destination is linked to a virtual device comprising first determining whether the source is linked to a virtual device then determining whether a destination in the conflicting link is linked to a virtual device.

10. (Currently Amended) The method of claim [[8]] 1, comprising, if the source is linked to a first virtual device, replacing the source with the first virtual device.

11. (Canceled).

12. (Currently Amended) A computer readable medium storing a data structure representing a virtual link table, the data structure comprising:

one or more entries showing a link between a source device in a network and a first virtual device, the source device being identified in a received topology map of a network and the first virtual device not being identified in the received topology map;

one or more entries showing a link between a destination device in the network and the first virtual device, the destination device being identified in the received topology map;

the virtual link table data structure being used by an executable program to display an improved topology map of the network;

wherein the first virtual device is representative of one or more network devices not identified in the received topology map as linked to the source or destination ports [[.]] ;

wherein resolving the conflicting link comprises first determining whether the source or a destination in the conflicting link is linked to a first virtual device and replacing the conflicting link with a link to a virtual device only if neither the source nor a destination is linked to the first virtual device; and

wherein if a destination in the conflicting link is linked to a first virtual device, creating a link from the source to the first virtual device if the source in the conflicting link is not a virtual device.

13. (Currently Amended) A system, comprising:

a processor;

at least one arrangement configured to communicate with the processor via a computer network;

a computer-readable storing medium storing a set of instructions, the set of instructions capable of being executed by the processor to implement a method for resolving anomalies within a network topology map, the set of instructions effective to perform the steps of:

identifying an anomaly including a conflicting link within a received topology map, the conflicting link comprising a source port on a network device and one or more conflicting destination ports on one or more other network devices;

resolving the conflicting link by inserting one or more virtual devices within the topology map, the one or more virtual devices being representative of [[the]] one or more of the network devices not identified in the received topology map as linked to the source or destination ports wherein resolving the conflicting link comprises first determining whether the source or a destination in the conflicting link is linked to a first virtual device; [[and]]

replacing the conflicting link with a resolved link to the one or more virtual devices based upon the resolution of the conflicting link wherein replacing the conflicting link with a link to a virtual device only if neither the source nor a destination is linked to the first virtual device; and

wherein if a destination in the conflicting link is linked to a first virtual device, creating a link from the source to the first virtual device if the source in the conflicting link is not a virtual device.

14. (Currently Amended) An apparatus for resolving anomalies within a network topology map, the apparatus comprising:

a first arrangement effective to identify an anomaly including a conflicting link within a received topology map, the conflicting link comprising a source port on a network device and one or more conflicting destination ports on one or more other network devices; [[and]]

a second arrangement effective to resolve the conflicting link by inserting one or more virtual devices within the topology map, the one or more virtual devices being representative of one or more network devices not identified in the received topology map as linked to the source or destination ports wherein resolving the conflicting link comprises first determining whether the source or a destination in the conflicting link is linked to a first virtual device; and

a third arrangement effective to replace the conflicting link with a resolved link to the one or more virtual devices based upon the resolution of the conflicting link wherein

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replacing the conflicting link with a link to a virtual device only if neither the source nor a destination is linked to the first virtual device; and

wherein if a destination in the conflicting link is linked to a first virtual device, creating a link from the source to the first virtual device if the source in the conflicting link is not a virtual device.--

Allowable Subject Matter

2. Claims 1-7, 9, 10 and 12-14 are allowed.

Reason for allowance

3. This communication warrants no examiner's reason for allowance, as applicant's reply makes evident the reason for allowance, satisfying the record as whole as required by rule 37 CFR 1.104(e). In this case, the substance of applicant's remarks filed on 12/7/2006 with respect to the added claim limitation point out the reason claims are patentable over the prior art of record. Thus, the reason for allowance is in all probability evident from the record and no statement for examiner's reason for allowance is necessary (see MPEP 13202.14).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Dinh whose telephone number is (571) 272-

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3936. The examiner can normally be reached on Monday through Friday from 8:00 A.m. to 5:00 P.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung, can be reached on (571) 272-3939. The fax phone number for this group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Khanh Dinh
Primary Examiner
Art Unit 2151
1/21/2006